



Warm Springs Fish Technology Center

August 2009 Activity Report

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Piedmont Blue Burrower, *Cambarus harti*.
Credit: Chester Figiel, Jr., USFWS Photo.

Warm Springs Fish Technology Center

The Fish Technology Center (FTC) is a component of the Warm Springs Regional Fisheries Center (RFC) and was developed to improve and enhance fisheries management. We provide consolidated technical operational support to regional fisheries operations and technical assistance to the public. The Fish Technology Center is comprised of a cryopreservation laboratory, conservation genetics laboratory, and the National Fish Strain Registry at Warm Springs, Georgia, and a field station in Wadmalaw Island, South Carolina.

Goals:

- Provide management support of interjurisdictional coastal and riverine fishes such as robust redhorse, shortnose sturgeon, Gulf sturgeon, and Gulf striped bass.
- Provide conservation genetics support for regional fishery programs.
- Maintain the National Fish Strain Registry for dissemination of information and support of private, state and federal broodstocks.
- Develop cryopreservation techniques for imperiled fish and mussels.
- Develop hatchery product evaluation techniques.

Cryopreservation

Cryopreservation is a process in which a living cell is frozen, stored, and thawed and remains viable. Cryopreserved sperm assists reproductive efforts by allowing spawning to take place whenever females are ready, reduces the need to hold males, and can increase flexibility and genetic diversity in spawning protocols.

Currently, the Warm Springs FTC is working on numerous species of fish, including threatened or endangered species. In the near future, the FTC will expand cryopreservation research to include other aquatic species (e.g., freshwater mussels, amphibians) for conservation efforts.



Mussel collection from Sawatchee Creek.
Credit: USFWS Photo.

Conservation Genetics

The Conservation Genetics lab primarily works with biologists and managers of the region to design and implement genetic research on imperiled aquatic organisms.

Current Projects include estimating genetic diversity from: alligator gar, Gulf Coast striped bass, robust redhorse, freshwater mussels, and threatened and endangered species such as spotfin chub.

National Fish Strain Registry

The National Fish Strain Registry (NFSR) is an internet-based program that assembles information on life history, genetics, reproduction, and behavior of wild populations and domestic fish strains throughout the United States. The NFSR database is available for use by public and private producers as well as resource managers of federal, state, and tribal governments through a registration process. Once registered, users are able to search, create new records, edit records, and request information. The NFSR's vision is to provide a broad collaborative program that provides access to data and information on our Nation's aquatic resources. You must be a registered user to access the NFSR website; please contact chester_figiel@fws.gov or nicole_rankin@fws.gov to become a registered user.

Partnerships and Accountability

GADNR Partnership



The FTC is currently working with Georgia Department of Natural Resources (GADNR), Wildlife Resources Division, to estimate levels of genetic diversity, estimate age using otoliths (fish ear bones), and check for presence of an oxytetracycline (OTC) mark on Gulf striped bass, *Morone saxatilis*, in the Apalachicola-Chattahoochee-Flint river system. Brent Hess and Paul Jones, biologists from GADNR, have been collecting fin clips and otoliths from striped bass caught at West Point Lake, GA. Greg Moyer and Ashantye' Williams are using the fin clip to determine the genetic diversity and origin of striped bass from broodstock repository lakes. Brent and Paul are using the otoliths to determine fish age and to detect the presence of an OTC mark. Hatchery-raised striped bass are immersed in OTC as phase one and/or phase two fish, and the otoliths retain the OTC mark. This mark is used to determine if striped bass are hatchery raised or wild spawned. Nicole Rankin has been assisting Brent and Paul with thin sectioning striped bass otoliths for aging and OTC detection. All FTC staff have assisted Brent and Paul by providing materials, equipment, and technical support for the Gulf striped bass project.

Mr. Tom Head caught this 103 lb flathead catfish on August 18, 2009. This would have been a new state record if caught on rod and reel; current record is 83 lbs.

Credit: GADNR Photo.

Joe Rydell, biologist from GADNR, recently requested the use of the FTC's low-speed saw to section a flathead catfish, *Pylodictis olivaris*, spine. This 103 lb catfish was captured on a trot line in the Ocmulgee River and was measured at more than 57 inches long and greater than 41 inches in girth. Nicole assisted Joe with thin sectioning and aging the catfish spine on August 25, 2009. The flathead catfish was estimated to be 18 years old from the catfish spine.

Collaborative Research with Auburn University

Dr. Jim Stoeckel and Dr. Brian Helms from the Department of Fisheries and Allied Aquacultures at Auburn University visited the FTC on August 19, 2009. They talked to Chester Figiel, Jr. about their collaborative research on the growth, behavior and population dynamics of the Piedmont Blue Burrower crayfish, *Cambarus harti*. This primary burrowing crayfish is state listed as endangered because it has a limited range and habitat specificity and is only found in the Piedmont region of the Chattahoochee and Flint River basins in Meriwether County, Georgia. Greg Moyer, Ashantye' Williams, and Chester visited Dr. Stoeckel and Dr. Helms at Auburn University in July to learn about their crayfish and mussel research and lab design, so this follow-up meeting in Warm Springs provided further insight into FTC research programs.



Piedmont Blue Burrower, *Cambarus harti*.
Credit: USFWS Photo.

Partnerships and Accountability

Impact of Climate Change on Herps Workshop

Chester Figiel, Jr. is working with the USFWS Southwest Region to plan a workshop tentatively titled "Climate Change and the Conservation of Amphibian and Reptiles." This workshop, to be held in February 2010, will provide attendees with an understanding of the patterns and processes affecting imperiled herpetofauna, and the adaptive management strategies needed to address climate change effects. Topics will include an adaptive framework process to prioritize amphibian and reptile conservation activities and applied issues: management of emerging pathogens, reproductive physiology, and husbandry for the short term (emergency salvage) or long term (refugia or propagation). Please email Chester (chester_figiel@fws.gov) if you are interested in participating in the workshop.

Aquatic Species Conservation and Management

ACF Fish and Mussel Workshop

Nicole Rankin attended the Apalachicola-Chattahoochee-Flint (ACF) Rivers' Freshwater Fish and Mussel Identification Workshop at the Joseph Jones Ecological Research Center in Newton, Georgia on August 3 - 7, 2009. The workshop provided background information on life history, taxonomy, habitat requirements, and fish host species of freshwater mussels in the ACF River Basin. Over 25 people from two states were in attendance and participated in the workshop which consisted of hands-on identification exercises in the classroom and two-days in the Flint River surveying for fish and mussels. Fish were collected using a backpack shocker and an electrofishing boat, and participants snorkeled to collect mussels. This workshop provided valuable information for identifying and surveying for freshwater mussels in the ACF River Basin.



Jim Williams teaching workshop participant about darters. Credit: ACF Mussel Workshop, USFWS.



Collecting fish using a backpack shock unit and seine nets. Credit: ACF Mussel Workshop, USFWS.



Sorting mussels for identification. Credit: ACF Mussel Workshop.

Public Use

- Check out the Let's Go Outside nature mosaic at <http://www.yououtdoors.org/>. The FTC has added four photos from Junior Ranger Camp to the image mosaic. Search for the photos using the unique photo ID: [1014](#), [1015](#), [1016](#), [1017](#).
- Chester Figiel, Jr., Bill Bouthillier, and Ashantye' Williams gave a tour of the FTC facilities and talked about current research programs with the FWS Southeast Region Connecting Children with Nature Committee on August 25, 2009.

Workforce Management

FTC Laboratory Addition

The FTC began construction on a small addition to its laboratory space during the month of August. When finished, the addition will be approximately 18' x 30' and will house both the Conservation Genetics and the Cryopreservation Laboratories. In an effort to keep expenses down, the project was primarily accomplished through the work of FWS Fisheries personnel from Warm Springs and other stations. Bill Wayman (FTC), Chad Shirey (Warm Springs National Fish Hatchery), Devin Chappell (Warm Springs Fish Health Center), Sheldon Hawkins (Bears Bluff National Fish Hatchery), and Allen Walker (Welaka National Fish Hatchery) worked during the first week to get the addition framed, sheathed, and roofed. Chad Shirey, Devin Chappell, Bill Wayman, Keith Wilson (Erwin National Fish Hatchery), and David Teague (Erwin National Fish Hatchery) worked the second week to get the electrical, insulation, windows, and drywall completed. With the help of these Fisheries personnel, the FTC addition was built and weatherized in only 2 weeks, which in Georgia's August heat is pretty hard to believe.



FTC addition concrete slab.
Credit: USFWS Photo.



Fisheries personnel framing the addition.
Credit: USFWS Photo.



Installing electrical to the addition.
Credit: USFWS Photo.

Employees Empowering Employees for Excellence (E⁴)



Mentoring Pair, Eva Lara and Nicole Rankin.
Credit: Tom MacKenzie, USFWS Photo.

Nicole Rankin was chosen to participate as a mentoree in the Southeast Region's E⁴ Mentoring Program. The purpose of the E⁴ Mentoring Program is to provide a structured professional environment in which an experienced employee (mentor) empowers a less-experienced employee (mentoree) to learn, understand, and develop the necessary skills to excel professionally and personally. This program offers a formal mentoring relationship for the duration of one-year. To participate in the program, mentors and mentorees were required to attend a two-day orientation and training session on August 18 - 19, 2009 in Atlanta, GA. Cindy Dohner greeted the program participants and announced the mentor-mentoree pairs. Dr. Mamie Parker was also present and discussed "The Magic of Mentoring." During the training, mentoring pairs were introduced to the program, their roles as mentors and mentorees, and the goals and expectations of the program. Nicole was paired with Eva Lara, a wildlife inspector at the Port of Miami. This orientation and training session was a huge success and was designed to equip the mentoring pairs with the tools and structure to make the following year as beneficial as possible.



Mentoring Program Participants. Credit: Tom MacKenzie, USFWS Photo.